

## Original Research Article

### Effect of the Covid-19 pandemic on teaching in subject of Anatomy for first MBBS students

Sachin Patil<sup>1\*</sup>, Sagnik Roy<sup>2</sup>, Nivedita Roy<sup>3</sup>

Department of Anatomy, Gujarat Adani Institute of Medical Sciences and GK General Hospital, Bhuj, Kachchh, Gujarat-370001

\* Correspondence: Dr Sachin Patil (sachin.patil@gaims.ac.in)

#### ABSTRACT

**Introduction:** Anatomical knowledge is very crucial to the practice of medicine; thus, its acquisition is foundation base for clinical subjects. Many studies have shown that cadaveric dissections strengthen respect and empathy among medical students. Many students felt the stress and anxiety due to online teaching classes during the pandemic

**Material and methods:** This cross-sectional study was conducted among first year MBBS students of Gujarat Adani Institute of Medical Sciences, Bhuj, Gujarat, India, during 2020-2021. Informed consent was taken from the students when they came back to offline classes after the pandemic was controlled

**Results:** Students were of opinion that offline teaching is more stimulating, it is easy to engage with teacher and more interaction and doubt can be cleared. But during online teaching fear of facing teacher was less in minds of students.

The disadvantages which are associated with online teaching as per our study were mostly poor internet connection and less interactivity with teacher. Regarding advantages of online teaching, students were most happy with flexibility of location and comfort of home. Other few advantages were time and cost saving due to travel.

**Conclusion:** The present study revealed that for anatomy being a vast subject, online teaching cannot replace the offline teaching. But in current corona pandemic, online teaching is the only way out. To make online teaching effective it should be more interactive and practical topic has to be revised on specimens and models when students are back to offline classes. The exams should not just include MCQs but also viva and assignments

**KEYWORDS:** Anatomy, COVID-19, Dissection, Students, Pandemic

#### INTRODUCTION

In Tradition, anatomy in first MBBS has been taught in lectures, projected materials and cadaveric dissection. Newer methods like computer-assisted learning models and interactive software and radiological images have also been used. But the Cadaveric dissection has been one of the most effective methods of practical learning in anatomy across the medical schools in world for many years<sup>1</sup>. But since the beginning of Covid 19 pandemic situation and lockdown across India, students were attending online classes through blue jeans, Zoom, Google classroom, Microsoft teams etc.<sup>2</sup>. Anatomical knowledge is very crucial to the practice of medicine; thus, its acquisition is foundation base for clinical

subjects. Many studies have shown that cadaveric dissections strengthen respect and empathy among medical students<sup>3</sup>. Many students felt the stress and anxiety due to online teaching classes during the pandemic<sup>4</sup>. First MBBS students lost learning opportunities in anatomy through various modalities like cadaveric dissection, models, museum specimens, bones and microscopic slides due to current pandemic situation<sup>5</sup>. This study was done to explore and evaluate effect of the Covid-19 pandemic on teaching in subject of anatomy for first MBBS students. Also, the views of students regarding advantages and disadvantages of online teaching and dissection hall teaching were analyzed.

**Table-1: The responses to the questionnaire by students**

	Question	Students' response	
		YES (%)	NO (%)
<b>1</b>	Are you aware of COVID-19 pandemic?	<b>100</b>	
<b>2</b>	Can online teaching-learning be an effective substitute for physical learning in such challenging times?	45.9	<b>54.1</b>
<b>3</b>	Are you comfortable and trained to handle online learning?	41.9	<b>58.1</b>
<b>4</b>	Which device do you use to attend the online classes?	<b>Smart phone-76.4 %</b> Laptop –8.8 % Tablet-10.1 % Desktop-4.7 %	
<b>5</b>	Do you face internet problems during your online classes?	<b>88.5</b>	11.5
<b>6</b>	Do you miss practical teaching and dissection?	<b>86.5</b>	13.5
<b>7</b>	Do you miss physical interaction with teachers ?	<b>89.2</b>	10.8
<b>8</b>	Do dissection in DH make the understanding of anatomy easier?	<b>75.7</b>	24.3
<b>9</b>	Are you comfortable with online MCQ exam system?	<b>54.7</b>	45.3
<b>10</b>	Do you feel distracted at home while attending online classes?	36.5	<b>63.5</b>
<b>11</b>	Do you feel online teaching has affected your understanding of anatomy significantly?	<b>62.2</b>	37.8
<b>12</b>	Do you find any difficulty in time management for study at home?	<b>55.4</b>	44.6
<b>13</b>	Do you feel lack of self-motivation for study in COVID-19 pandemic situation?	<b>63.5</b>	36.5
<b>14</b>	Do you think Cadaver dissection technique can be replaced by videos, models, computer assisted learning?	17.6	<b>82.4</b>
<b>15</b>	Do you miss your college hostel, friends, cultural and sporting events?	<b>91.9</b>	8.1
<b>16</b>	Do you think you were less discipline or cooperative during online classes compare to regular classes in lecture or dissection hall?	<b>60.8</b>	39.2
<b>17</b>	Do you think teachers were adequately interactive during online classes?	<b>67.6</b>	32.4
<b>18</b>	Are you satisfied with current online teaching methods?	37.8	<b>62.2</b>

## MATERIALS AND METHODS

This cross-sectional study was conducted among first year MBBS students of Gujarat Adani Institute of Medical Sciences, Bhuj, Gujarat, India, during 2020-2021. Informed consent was taken from the students when they came back to offline classes after the pandemic was controlled.

**Inclusion criteria:** First M.B.B.S students at GAIMS, Bhuj, who give voluntary consent for participation batch 2020-2021 and batch 2021-2022

**Exclusion criteria:** The students who were non- consenting and absent

Preparation of questionnaire and validation of the questionnaire was done by discussions amongst experts before its implementation. All First M.B.B.S students who gave voluntary consent for participation batch 2020-2021 and batch 2021-2022 were asked to fill a questionnaire with questions regarding their perception of online teachings & assessment in subject of anatomy. The questions were asked in relations to current covid 19 pandemic, learning methods in anatomy, advantages and disadvantages of online teaching in anatomy. The results were generated from the data obtained and conclusion was drawn after analysing the data.

## RESULTS

Out of 300 students (150 from each batch), 148 students submitted their response for the questionnaire which have been tabulated and analysed

Table 1 shows the responses and feedback from students

## DISCUSSION

This study was aimed to know effect of the Covid-19 pandemic on teaching in subject of anatomy for first MBBS students. Also, the views of students regarding advantages and disadvantages of online teaching and dissection hall teaching were taken.

Most of the students were of view that teaching in lecture combined with dissection and small group teaching was the best method for the anatomy learning. Osteology was the most difficult part of anatomy to understand during online classes.

Students were of opinion that offline teaching is more stimulating, it is easy to engage with teacher and more interaction and doubt can be cleared. But during online teaching fear of facing teacher was less in minds of students. The disadvantages which are associated with online teaching as per our study were mostly poor internet connection and less interactivity with teacher. Other few

disadvantages were lack of space, family distractions and inability to take notes during online classes. This was similar to findings in study by Doherty OD et al and Chang CA et al <sup>6,7</sup>.

Regarding advantages of online teaching, students were most happy with flexibility of location and comfort of home. Other few advantages were time and cost saving due to travel. These findings were more or less similar to study by Dost S et al <sup>8</sup>.

Dissection is very important part of anatomy since structural relations, three-dimensional orientation of organs of the human body can be learnt easily through dissection <sup>9</sup>. We also asked the students regarding advantages and disadvantages of dissection. Most students felt dissection helps them to differentiate between structures and so make subject easy. This gives them more confidence while facing viva exam. The most common disadvantage of dissection was smell of formalin and eye irritation in dissection hall. Finally, we asked students regarding comfort during online MCQs exam to which most of them responded that felt comfortable but it is better to combine it with online viva on video call. Some students suggested theory exam and assignments should be given in addition to MCQs.

## CONCLUSION

The present study revealed that for anatomy being a vast subject, online teaching cannot replace the offline teaching. But in current corona pandemic, online teaching is the only way out. To make online teaching effective it should be more interactive and practical topic has to be revised on specimens and models when students are back to offline classes. The exams should not just include MCQs but also viva and assignments

## REFERENCES

1. P. P.McKeown,D. J.A.Heylings, M. Stevenson, K. J. McKelvey,J. R. Nixon, and D. R. McCluskey, "The impact of curricular change on medical students' knowledge of anatomy," *Medical Education*, 2003;37(11). 954–961.
2. Roy H, Ray K, Saha S, Ghosal AK. A study on students' perceptions for online zoom-app based flipped class sessions on anatomy organised during the lockdown period of COVID-19 epoch. *J Clin Diagnostic Res*. 2020;14(6):AC01-04.
3. S. E. Weeks, E. E. Harris, and W. G. Kinzey, "Human gross anatomy: A crucial time to encourage respect and compassion in students," *Clinical Anatomy*, vol. 8, no. 1, pp. 69–79, 1995.
4. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety &

perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian J Psychiatry*. 2020.51.102083.

5. Ravitheja Eluru, Mutyalapati Venkata Ramulu, Rachel Koshi, Shripad Deshpande. Effect of Corona Pandemic on Learning Anatomy Subject among First Year MBBS Students. *International Journal of Anatomy, Radiology and Surgery*. 2021 Jan, Vol-10(1): AO13-AO15
6. Doherty OD, Dromey M, Lougheed J, Hannigan A, Last J, Mc Grath D. Barrier and solution to online teaching in medical education- An integrative review. *BMC Medical Education*. 2018; 18:130.
7. Chang CA, Cate O, Custers E, Leeuwen M, Bleys R. Approaches of anatomy teaching for seriously resource-deprived countries: A literature review. *Educ Heal Chang Learn Pract*. 2019;32(2):62-74.
8. Dost S, Hossain A, Shehab M, et al. Perceptions of medical students towards online teaching during the COVID-19 pandemic: a national cross-sectional survey of 2721 UK medical students. *BMJ Open* 2020;10: e042378. doi:10.1136/bmjopen-2020-042378
9. N. A. Granger, "Dissection laboratory is vital to medical gross anatomy education," *Anatomical Record - Part B New Anatomist*, 2004. 281(1) . 6–8.

**Source of support:** Nil

**Conflict of interest:** None declared

**How to cite:** Patil S, Roy S, Roy N. Effect of the Covid-19 pandemic on teaching in subject of Anatomy for first MBBS students. *GAIMS J Med Sci* 2022;2(1):36-39  
<https://doi.org/10.5281/zenodo.6622277>